

**STATE OF CALIFORNIA
STATE ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION**

2013 Title 24 Building Energy Efficiency)	
Standards Rulemaking Proceeding)	Docket No. 12-BSTD-2
California Code of Regulations, Title 24,)	Resolution No. 12-1212-7
Parts 1 and 6, Nonresidential)	
Acceptance Testing Certification)	
Rulemaking)	
_____)	

**[PROPOSED] RESOLUTION ADOPTING PROPOSED REGULATIONS
NONRESIDENTIAL ACCEPTANCE TESTING CERTIFICATION**

I. INTRODUCTION

The California Energy Commission (Energy Commission) hereby adopts additions and amendments to its Building Energy Efficiency Standards and associated Administrative Code. These standards apply to nonresidential buildings only and are in Parts 1 and 6 of Title 24 of the California Code of Regulations (“CCR”). The standards are called the Nonresidential Acceptance Testing Certification Standards, as proposed on November 26, 2012, for a 15-day review period and with an errata of non-substantial changes as proposed in Appendix A of this document, consistent with the requirements of the Administrative Procedure Act (Gov. Code, § 11346.8). These regulations will go into effect on January 1, 2014, following approval of the California Building Standards Commission.

The Energy Commission takes this action under the authority given by Public Resources Code sections 25218, subd. (e), 25402, 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code sections 18930.5 and 18941.5. The regulations implement, interpret and make specific Sections 25402, subd. (a)-(c), 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code sections 18930.5 and 18941.5.

II. HISTORY OF THE PROCEEDING

The development of these Nonresidential Acceptance Testing Certification regulations followed the larger overall development process for the California Energy Code in Part 6 and the associated administrative regulations in Part 1 of Title 24 of the CCR. Those standards in Parts 1 and 6 are collectively called the “2013 Building Energy Efficiency Standards” (or 2013 Standards), and were adopted by the Energy Commission at a May 31, 2012, public hearing.

On September 19, 2012, the Energy Commission published a Notice of Proposed Action regarding these proposed regulations. As stated in the Notice of Proposed Action and associated Initial Statement of Reasons, the Energy Code requires that specific equipment and controls installed in nonresidential buildings be tested according to Energy Commission-adopted “acceptance testing” protocols to ensure their proper installation before the building is approved for occupancy. Compliance documentation must be signed by both the Field Technician who completed the acceptance testing and the licensed person who is legally responsible for the installation under the Business and Professions Code. The current Standards do not specify qualifications or training that the Field Technician must meet to be authorized to complete the acceptance testing.

Studies and stakeholder comments provided to the Energy Commission indicate that acceptance testing occurring in the field is currently inadequate. Because of inconsistent levels of training, Field Technicians as a whole are not providing the assurances necessary that the installed systems are delivering the energy efficiencies and monetary savings expected by building owners and which are required by state law. The proposed regulations create an independent third party certification and training program to ensure Field Technicians and their employers acquire minimal level of training and skill to verify nonresidential lighting controls and mechanical systems comply with existing energy efficiency building standards.

The proposed language was made available for public comment for 45 days as required by law. The proposed language was also known as the “45-Day Language” or “45-Day Express Terms.” The Notice of Proposed Action also stated that the Energy Commission may decide to make substantive changes to the Express Terms through 15-Day Language, in which case the public hearing would be continued to a later noticed date, in which case an additional public comment period would be held and instructions would be provided for interested persons to participate.

Along with the Notice of Proposed Action, the Energy Commission published the Economic and Fiscal Analysis (Form 399) and the Initial Statement of Reasons, which presented the rationales for the proposed Standards. The Notice of Proposed Action, Form 399 and Initial Statement of Reasons were submitted to the California Building Standards Commission and subsequently to the Office of Administrative Law, which published notice of these regulations in the California Regulatory Notice Registry on September 21, 2012¹.

The Energy Commission also provided the Notice of Proposed Action to:

- every contact on the Energy Commission's mailing lists for: The Blueprint (a Title 24 newsletter), appliance efficiency standards, nonresidential and residential building energy efficiency standards, city and county building officials, and county clerks,

¹California Regulatory Notice Register, Sept 21, 2012, vol. no. 38-Z, p. 1399.

- the Energy Commission's Efficiency and Building Standards electronic mail list-servers, and
- every person who had requested notice of such matters.

In response to comments received on the proposed regulations, on November 1, 2012, the Energy Commission published a Notice of Postponement of Hearing setting a new date for consideration of proposed regulations for Nonresidential Acceptance Testing Certification for December 12, 2012. On November 26, 2012 a Notice of Hearing and Availability was published, announcing the availability of the revised Express Terms and establishing a 15-day public comment period for proposed changes to the 45-Day Language that was initially proposed.² These notices were also published on the Energy Commission's website.

The following is a high level summary of the 15-Day Language changes made to the 45-Day Language of the Nonresidential Acceptance Testing Certification:

- Reduced the number of Acceptance Test Technicians (ATTs) that need to be certified before the regulations require that specific nonresidential acceptance tests be performed by certified ATTs;
- Added requirements for Acceptance Test Technician Certification Providers (ATTCPs) to document the specifics of their training and certification procedures;
- Reduced the hours required for the one-day class requirement for Acceptance Test Employers;
- Added a requirement that each ATT, upon certification, receive a unique certification number and include it in the Title 24 compliance documentation filed with the enforcement authorities;
- Added a requirement that each ATTCP provide an explanation of curricula changes to the Energy Commission prior to the effective date of adopted updates to the Building Energy Efficiency Standards;
- Clarified that all potential ATTCPs must apply to the Energy Commission no less than six months prior to the effective date of new or amended Building Energy Efficiency Standards (starting with the 2013 Standards).

In addition to these substantive changes, the 45-Day Language was clarified in several places by removing redundancies and adding specificity.

Documents additional to those identified in the Notice of Proposed Action upon which the Energy Commission is relying in consideration of the 15-Day Language or which were incorporated by reference in the regulations were identified in the Notice of Availability and were made available on the Energy Commission website or upon

² Per Gov. Code § 11346.8, subd. (c).

request. These changes to the proposed regulatory test are called “15-day language” because they are sufficiently related to the 45-day language and thus only subject to an abbreviated 15-day notice requirement. The 15-day language was made available for public comment for 15 days, through December 11, 2012.³

On December 12, 2012, the Energy Commission held a public hearing, pursuant to Government Code section 11346.8 and Public Resources Code section 25402, to accept both oral and written final comments on the Nonresidential Acceptance Testing Certification requirements, and to consider their adoption.

III. FINDINGS AND CONCLUSIONS

Several different statutory schemes govern the Energy Commission’s adoption of building standards: the Warren-Alquist State Energy Resources Conservation and Development Act,⁴ the Administrative Procedure Act,⁵ and the Building Standards Law.⁶ Pursuant to these statutes, the Energy Commission has reviewed the entire record of this proceeding, including public comments, reports and other documents, transcripts of public events, and all other materials that have been filed in this proceeding (Docket No. 12-BSTD-2). Based on that record, the Energy Commission makes the following findings and conclusions.

A. The Warren-Alquist Act

1. Public Resources Code Sections 25402, subd. (a)-(b)

Section 25402 of the Warren Alquist Act directs the Energy Commission to adopt “building design and construction standards that increase the efficiency in the use of energy and water for new residential and new nonresidential buildings” and “energy and water conservation design standards for new residential and new nonresidential buildings”.

The Nonresidential Acceptance Testing Certification requirements that we adopt today accomplish the goals of Section 25402, subdivisions (a) – (b).

The 2013 Standards were previously found to fulfill these directives. They increase the efficiency of and conserve the use of energy and water. Moreover, they were found to be cost-effective⁷.

Buildings constructed pursuant to the 2013 Standards are projected to:

³ Gov. Code § 11346.8; Cal. Code Regs., tit. 1, § 42.

⁴ Pub. Resources Code § 25000 et seq.

⁵ Gov. Code § 111340 et seq.

⁶ Health & Safety Code § 18901 et seq.

⁷ See Order Adopting Proposed Regulations, Docket No. 12-BSTD-1, Order No. 12-0531-5, May 31, 2012.

- save \$1.60 billion in energy over a 30-year life;
- save 200 million gallons of water per year, and;
- avoid more than 155 thousand metric tons of greenhouse gas emissions per year.

From the Economic and Fiscal Analysis (Form 399), published simultaneously with the Notice of Proposed Action, the Nonresidential Acceptance Testing Certification requirements are demonstrated to be cost effective.

- Total Statewide costs and benefits: The proposed regulations are estimated to deliver \$4.0 million in benefits at a cost of \$3.75 million, for a cost-effectiveness ratio of 1.07 to 1.
- Cost or Savings to any state agency: The proposed regulations are estimated to save the State Government \$40,000 at a cost of \$37,500 for a cost-effectiveness ratio of 1.07 to 1.
- Cost to any local agency required to be reimbursed under Part 7 (commencing with Section 17500) of Division 4 of Title 2 of the Government Code: None. Additional expenditures of approximately \$112,500 in the current State Fiscal Year which are not reimbursable by the State pursuant to Section 6 of Article XIII B of the California Constitution and Section 17500 et seq. of the Government Code because the proposed regulation provides for savings to each affected local government which will, at a minimum, offset any additional cost with a total savings of approximately \$120,000.

With respect to these and the following provisions of the Warren-Alquist Act, the requirements of the Nonresidential Acceptance Testing Certification will provide for better, more reliable implementation of the 2013 Standards and realization of the anticipated energy savings. This, in turn, will support implementation of the other provisions of the 2013 Standards.

2. Public Resources Code Section 25402.4

Section 25402.4 of the Warren-Alquist Act requires that the nonresidential building energy standards allow the use of passive thermal systems. The 2013 Standards do this. The requirements of the Nonresidential Acceptance Testing Certification will provide for better, more reliable implementation of the 2013 Standards and realization of the anticipated energy savings, thereby enhancing the allowance to use passive solar systems.

3. Public Resources Code Sections 25402.5, 25402.5.4

Sections 25402.5 and 25402.5.4 of the Warren-Alquist Act require that the Energy Commission adopt standards for lighting. The 2013 Standards do this. The requirements of the Nonresidential Acceptance Testing Certification will provide for better,

more reliable implementation of the 2013 Standards and therefore will enhance the adopted Standards for lighting.

4. Public Resources Code Section 25402.8

Section 25402.8 of the Warren-Alquist Act directs the Energy Commission, when adopting new building energy conservation standards to “include in its deliberations the impact that those standards would have on indoor air pollution problems.”

The Energy Commission must take into account both the indoor air quality concerns embodied in Section 25402.8 and the mandate to achieve cost-effective energy conservation in Sections 25402(a) and (b).

We previously found that the 2013 Standards included provisions which are reasonably necessary to carry out the mandate of Section 25402.8, and that struck an appropriate balance between the requirements of this Section and the energy-savings and cost-effectiveness mandates of Sections 25402, subd.(a)-(b). The requirements of the Non-residential Acceptance Testing Certification will provide for better, more reliable implementation of the 2013 Standards, and thus will not impact indoor air quality. As previously shown the Nonresidential Acceptance Testing Certification requirements are cost effective.

5. Public Resources Code Section 25910

Section 25910 of the Warren-Alquist Act requires standards for insulation. The 2013 Standards establish such standards, along with requirements to ensure quality installation. The requirements of the Nonresidential Acceptance Testing Certification will provide for better, more reliable implementation of the 2013 Standards and are expected to improve the quality of installation of insulation.

6. Public Resources Code Section 25943

Section 25943 of the Warren-Alquist Act requires the Energy Commission to

implement a comprehensive program to achieve greater energy savings in California's existing residential and nonresidential building stock. This program shall comprise a complementary portfolio of techniques, applications, and practices that will achieve greater energy efficiency in existing residential and nonresidential structures that fall significantly below the current standards in Title 24 [para.] The comprehensive program may include, but need not be limited to, a broad range of energy assessments, building benchmarking, energy rating, cost-effective energy efficiency improvements, public and private sector energy efficiency financing

options, public outreach and education efforts, and green workforce training.^[8]

The requirements of the Nonresidential Acceptance Testing Certification will provide for better, more reliable implementation of the 2013 Standards, which have been previously found to fulfill these requirements, and the energy savings anticipated from those regulations.

B. The Administrative Procedure Act

The California Administrative Procedure Act (APA) requires all state agencies to take certain steps and assess several matters when adopting regulations. Many of these matters, analyses and findings are required to be addressed in the Initial Statement of Reasons prepared as part of the Notice of Proposed Action, or in the Final Statement of Reasons that is required to be prepared after the regulations are adopted. In support of those documents, the Energy Commission made the following findings and determinations in adopting the Nonresidential Acceptance Testing Certification requirements.

1. Government Code section 11346.3

In addition to the economic analysis required by Section 11346.3 of the APA, discussed further below, subdivision (c) of this statute mandates that agencies that require the preparation of reports by businesses find that such reports are necessary to protect the health, safety or welfare of the people of California.

We previously found and concluded that it is necessary that the reporting requirements in the 2013 Standards apply to businesses, in order to protect the health, safety and welfare of the people of California, as required by Government Code section 11346.3, subdivision (c). The Nonresidential Acceptance Testing Certification reporting requirements are consistent with those in the 2013 Standards and help achieve the benefits of those standards. Additional requirements are required of Certification Providers, but are minimal and present no significant burden and thus are similarly necessary.

2. Government Code section 11346.45

State agencies must “involve parties who would be subject to the proposed regulations in public discussions regarding those proposed regulations, when the proposed regulations involve complex proposals or a large number of proposals that cannot easily be reviewed during the comment period.” The Energy Commission conducted extensive outreach with industry and other stakeholders, over the course of the past 18 months on the structure and contents of the regulations. We therefore previously found that the Energy Commission complied with Government Code section 11346.45.

⁸ Pub. Resources Code, § 25943, subd. (a)(1)-(2) enacted by Assem. Bill No. 758. Stats. 2009. Ch. 470.

On September 5, 2012, the Energy Commission opened the 45-Day comment period and provided a publicly noticed Hearing on October 1, 2012 to all interested parties. This further extended the Energy Commission's outreach activities and encompassed additional stakeholders who were participating in the Energy Commission rulemaking for the 2013 Standards. We find that this requirement was fulfilled.

3. Government Code sections 11346.3, 11346.5 and 11346.9

Sections 11346.3, 11346.5, and 11346.9 of the APA require State agencies to assess various potential economic and fiscal impacts of proposed regulations and potential alternatives. Briefly stated, the Energy Commission previously found that the 2013 Standards:

- a) Will not result in a significant statewide adverse impact directly affecting business (including small businesses), including the ability of California businesses to compete with businesses in other states, and job creation;
- b) Will not have significant impacts on housing costs;
- c) Do not have alternatives that would be more effective in carrying out the purposes of the Warren-Alquist Act without increasing burdens, or that would be as effective and less burdensome to affected private persons in carrying out the purposes; and
- d) Will not impose any direct costs or direct or indirect requirements on state agencies, local agencies, or school districts, including but not limited to costs that are required to be reimbursed under Part 7 (commencing with Section 17500) of the Government Code.

For complete details of the Energy Commission's fiscal and economic analysis of the 2013 Standards, see the Economic and Fiscal Analysis (Form 399), previously published with the Notice of Proposed Action for those regulations.

The Energy Commission has similarly determined that the adoption of the Nonresidential Acceptance Testing Certification requirements will not have a significant statewide adverse economic impact on businesses, including the ability of California businesses to compete with business in other states. The basis for the Energy Commission's findings on economic impacts is that the proposed regulations are cost effective, and therefore will have a beneficial economic impact on the owners and occupants of buildings built to comply with the Standards. Evidence for the cost effectiveness of the proposed regulations is contained in the Initial Statement of Reasons and in the Economic and Fiscal Statement (Form 399).

These proposed regulations will not have an adverse statewide economic impact because the expected costs are largely one-time certification expenses, whereas the energy savings that will accrue will continue to be realized year after year. Even in the first year of implementation, the costs of these regulations will be more than offset by energy savings.

C. The State Building Standards Law

The Building Standards Law requires that state agencies adopting building standards submit to the California Building Standards Commission both their adopted building standards and a justification of how the standards meet the criteria in Section 18930 of the Health and Safety Code. For the reasons described below, we find, determine, and conclude that the Nonresidential Acceptance Testing Certification requirements comply with each one of the applicable criteria.

1. The provisions do not conflict with, overlap, or duplicate other building standards

There is no overlap or duplication with other regulations because the Energy Commission is the only state agency authorized to set efficiency standards for buildings, and for the same reason there should be no conflict with other building standards (i.e., no situation in which it is impossible to comply with both an Energy Commission standard and another building standard). Nothing in the record shows otherwise.

The 2013 Standards were found not to conflict with, overlap or duplicate other building standards. The requirements of the Nonresidential Acceptance Testing Certification will provide for better, more reliable implementation of the 2013 Standards and do not, on their own, conflict with, overlap or duplicate other building standards.

2. The provisions are within the parameters established by enabling legislation and are not expressly within the exclusive jurisdiction of another agency

The California Energy Commission has statutory authority under Public Resources Code sections 25213, 25402, 25402.1, 25402.4, 25402.5, 25402.8, and 25910 to promulgate and update energy efficiency standards for residential and nonresidential buildings, including both newly constructed buildings and additions and alterations to existing buildings. The Energy Commission is the only state agency with the authority to set efficiency standards for buildings. No commenter suggested otherwise.

The requirements of the Nonresidential Acceptance Testing Certification will provide for better, more reliable implementation of the 2013 Standards and do not exceed the authority of the Warren-Alquist Act.

3. The public interest requires the adoption of the provisions

The Warren-Alquist Act requires the Energy Commission to adopt and “periodically update” its building standards, which indicates that the Legislature itself deems adoption of

cost-effective building standards to be in the public interest.⁹ Moreover, as we have discussed at length above, the extensive public record demonstrates that the 2013 Standards will save substantial amounts of energy and money, and will reduce adverse environmental impacts, all of which are in the public interest. The requirements of the Non-residential Acceptance Testing Certification will provide for better, more reliable implementation of the 2013 Standards and are therefore in the public interest.

4. The provisions are not unreasonable, arbitrary, unfair, or capricious, in whole or in part

The record of the Energy Commission's rulemaking proceeding demonstrates that the proposed building standards are not unreasonable, arbitrary, unfair, or capricious, in whole or in part. The Building Energy Efficiency Standards respond to the mandates of the Warren-Alquist Act, the Global Warming Solutions Act of 2006, California's Energy Action Plan 2008 Update, the California Energy Efficiency Long-Term Strategic Plan, the 2011 Integrated Energy Policy Report, the California's Clean Energy Futures Initiative, and Governor Brown's Clean Energy Jobs Plan.

Not only the content of the 2013 Standards, but also the process through which they were adopted (including the voluminous comments, both supporting the proposed Standards and suggesting edits which were incorporated into the final proposal), show that this criterion was met. Some comments challenged, or proposed modifications to, various provisions of the proposed measures (although rarely using the statutory terms "unreasonable, arbitrary, unfair, or capricious"). The Energy Commission either accepted those comments or determined that they were invalid.

The requirements of the Nonresidential Acceptance Testing Certification will provide for better, more reliable implementation of the 2013 Standards. These requirements have been publicly vetted and supported by those that would be most impacted by them. Therefore, this clearly demonstrates that these requirements are not unreasonable, arbitrary, unfair or capricious, in whole or in part.

5. The cost to the public is reasonable based on the overall benefit to be derived from the provisions

The record overwhelmingly demonstrates that the 2013 Standards are cost-effective. The added construction costs that the Standards will impose are reasonable based on the economic, environmental, and other benefits that are derived from the Standards and that will substantially outweigh the costs.

The 2013 Standards will reduce the energy use of typical new nonresidential buildings

⁹Pub. Resources Code, § 25402, subd. (a)(1).

by around 25 percent compared to buildings constructed under the current standards. Buildings constructed pursuant to the 2013 Standards are projected to:

- Save \$1.60 billion in energy over 30 years;
- Save 200 million gallons of water per year; and
- Avoid more than 155 thousand metric tons of greenhouse gas emissions per year.

The Energy Commission estimates average increases in construction costs of \$45,000 for a 15,000 square foot commercial building. This is less than 2 percent of typical construction costs for typical nonresidential buildings and, of course, as we just described above, these increases will be more than recouped by the reduced energy costs to operate the buildings.

Businesses, including small businesses, that inspect and verify the operational performance of lighting controls or mechanical systems in nonresidential buildings will be required by the Nonresidential Acceptance Testing Certification requirements to gain additional certification of their ability to complete the Title 24, Part 6 installation inspections and acceptance testing for these systems. The costs to become certified for these businesses are expected to be a one-time cost of approximately \$2,000 for each technician and \$500 for each employer overseeing technicians. The Energy Commission anticipates that these costs will be passed on to the building owners requiring the services of these businesses through increased fees for these inspection services.

The Nonresidential Acceptance Testing Certification requirement will provide building owners with a higher quality of verification of the energy saving features of their building lighting and mechanical components, thereby helping ensure the building owner is obtaining the benefits of their investment in various technologies. The costs that directly affect private persons and businesses are completely offset by the resulting energy bill savings, which are far in excess of the cost of compliance. The people of California benefit as less energy is used, reducing the need for developing additional generation capacity and the environmental damage associated with such energy projects, including greenhouse gas emissions.

In addition, by developing a rigorous training and certification program, the state will benefit by increasing the awareness among the building industry of the economic and environmental value of energy efficiency that may lead to overall gains in energy efficiency in other areas of building systems.

6. The provisions are not unnecessarily ambiguous or vague, in whole or in part

The Energy Commission made many changes to the draft proposals to ensure their clarity. There were no comments on the 15-Day Language for the Nonresidential Acceptance Testing Certification requirements regarding unnecessary ambiguity or vagueness.

7. The applicable national specifications, published standards, and model codes have been incorporated in the provisions as provided in the State Building Standards Law, where appropriate

There are no federal laws applicable to nonfederal buildings in their entirety, so nothing in this realm could have been incorporated into the Nonresidential Acceptance Testing Certification requirements.

There are no national specifications, published standards, or model codes, beyond those which were previously included in the 2013 Standards, which are applicable to the Nonresidential Acceptance Testing Certification requirements.

8. The format of the provisions is consistent with that adopted by the California Building Standards Commission

The Nonresidential Acceptance Testing Certification requirements continue to use the format of the other building standards in the State Building Code.

9. The proposed building standards, if they promote fire and panic safety as determined by the State Fire Marshal, have the written approval of the State Fire Marshal

The 2013 Standards are not intended to promote fire and panic safety. Nevertheless, the Energy Commission obtained the approval of the State Fire Marshal of the 2013 Standards. The requirements of the Nonresidential Acceptance Testing Certification will provide for better, more reliable implementation of the 2013 Standards and, of themselves, do not address fire and panic safety as defined by the State Fire Marshal.

D. The California Environmental Quality Act

The California Environmental Quality Act (Act)¹⁰ requires that state agencies consider the environmental impact of their discretionary decisions, including the adoption of regulations.

When it adopted the 2013 Standards, the Energy Commission found that:

- (1) In light of the whole record, there is no substantial evidence that the 2013 Building Energy Efficiency Standards in Parts 1 and 6 of Title 24 of the California Code of Regulations, will have a significant effect on the environment and
- (2) the [Adopted] Negative Declaration reflects the Energy Commission's inde-

¹⁰ Pub. Resources Code, § 21000 et seq.; see also implementing regulations, California Environmental Quality Act Guidelines, at tit. 14, Cal. Code of Regs., § 15000 et seq.

pendent judgment and analysis.¹¹

The requirements of the Act only apply to projects that have the potential for causing a significant effect on the environment.¹² A significant effect on the environment is defined as a substantial, or a potentially substantial, adverse change in the environment, and does not include an economic change by itself.¹³

The requirements of the Nonresidential Acceptance Testing Certification establish a quality control and training program that will improve the acumen of those professionals who fulfill existing inspection requirements. This will benefit the environment by helping ensure the energy conservation requirements of the 2013 Standards are met. Therefore, although adopting these regulations is arguably a “project” as defined under the Act,¹⁴ it is nonetheless exempt from the requirements of the Act because it can be seen with certainty that there is no possibility that the Nonresidential Acceptance Testing Certification requirements may have a significant effect on the environment. Nothing in the record suggests otherwise. Accordingly, adopting these regulations is not subject to the California Environmental Quality Act.

IV. ADOPTION OF AMENDMENTS TO REGULATIONS; DELEGATION TO EXECUTIVE DIRECTOR

The California Energy Commission adopts in the Title 24, Parts 1 and 6 of the California Code of Regulations the amendments identified in the Nonresidential Acceptance Testing Certification 15-day language dated November 26, 2012, and as revised at the December 12, 2012 public hearing through non-substantial changes that are set forth in Appendix A.

The California Energy Commission directs the Executive Director to take, on its behalf, all actions reasonably necessary to have the adopted regulations approved by the California Building Standards Commission and go into effect, including but not limited to preparing and filing all appropriate documents, such as the Final Statement of Reasons and a Notice of Exemption, and correcting typographical and other nonsubstantial errors.

CERTIFICATION

The undersigned Secretariat to the Energy Commission does hereby certify that the foregoing is a full, true, and correct copy of a Resolution duly and regularly adopted at a meeting of the California Energy Commission held on December 12, 2012.

¹¹ See Order Adopting Proposed Regulations, Docket No. 12-BSTD-1, Order No. 12-0531-5, May 31, 2012.

¹² Cal. Code of Regs., tit. 14, § 15061 (b)(3).

¹³ Pub. Resources Code, § 21068; Cal. Code of Regs., tit. 14, § 15382.

¹⁴ See Pub. Resources Code, § 21065; Cal. Code of Regs., tit. 14, § 15378.

AYE:
NAY:
ABSENT:
ABSTAIN:

Harriet Kallemeyn,
Secretariat

APPENDIX A
NONSUBSTANTIAL ERRATA TO 15-DAY LANGUAGE
OF
NONRESIDENTIAL ACCEPTANCE TESTING CERTIFICATION AMENDMENTS
TO THE
2013 BUILDING ENERGY EFFICIENCY STANDARDS
TITLE 24, PARTS 1 AND 6

**NONSUBSTANTIAL ERRATA TO THE
2013 BUILDING ENERGY EFFICIENCY STANDARDS 15-DAY LANGUAGE**

Revised December 11, 2012

The Energy Commission proposes the following changes to the 15-Day Language to correct typographical and transcription errors, inadvertent inconsistencies, improve phrasing, and make other improvements that clarify without materially altering the requirements, rights, responsibilities, conditions, or prescriptions contained in the 15-Day Language.

Summary of Changes

Issue (1):

The current language in sections 10-103-A(b)(2) and 10-103-A(c)(3)(B)(iii) require that the technicians have expertise in lighting. The intent of the regulation was to require expertise in lighting controls.

This is an improvement in the phrasing of the requirement and has no other material effect on the proposed regulations.

Issue (2):

The current language in sections 10-103-A(c)(3)(F) and 10-103-B(c)(3)(F) refer to a “third party oversight” that should read as “independent oversight.”

This is an inadvertent inconsistency and has no other material effect on the proposed regulations.

Issue (3):

The current language in sections 10-103-A(c)(3)(G) and 10-103-B(c)(3)(G) capitalize “Enforcement Agency,” which should be lowercase.

This is an inadvertent inconsistency and has no other material effect on the proposed regulations.

Issue (4):

The current language in section 10-103-A(c)(3)(B)(i)(m) refers to an older edition of the Illuminating Engineering Society of North America Lighting Handbook, Edition 9, when it should refer to the current Edition 10.

This is an inadvertent inconsistency and has no other material effect on the proposed regulations.

Specific Changes to Proposed Regulation

Changes from the 15-Day Language are shown in double-underline for additions and double strike-through for deletions, and in gray highlight to distinguish from the 15-Day Language.

**ARTICLE 1 – ENERGY BUILDING REGULATIONS
SECTION 10-102 – DEFINITIONS**

ACCEPTANCE TEST TECHNICIAN is a Field Technician as defined in Section 10-102 who is certified by an authorized Acceptance Test Technician Certification Provider pursuant to the

requirements of Sections 10-103-A or 10-103-B ~~person who performs the nonresidential acceptance test requirements.~~

LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN is a professional certified by an authorized Lighting Controls Acceptance Test Technician Certification Provider to perform nonresidential lighting controls acceptance tests and complete the documentation required for nonresidential lighting controls acceptance tests as required by the Building Energy Efficiency Standards ~~Title 24, Part 6.~~

MECHANICAL ACCEPTANCE TEST TECHNICIAN is a professional certified by an authorized Mechanical Acceptance Test Technician Certification Provider to perform nonresidential mechanical acceptance tests and complete the documentation required for nonresidential mechanical acceptance tests as required by ~~Title 24, Part 6~~ the Building Energy Efficiency Standards.

ACCEPTANCE TEST EMPLOYER is a person or entity who employs an Acceptance Test Technician and is certified by an authorized Acceptance Test Technician Certification Provider.

LIGHTING CONTROLS ACCEPTANCE TEST EMPLOYER is a person or entity who is the employer of a Lighting Controls Acceptance Test Technician and certified by an authorized Lighting Controls Acceptance Test Technician Certification Provider.

MECHANICAL ACCEPTANCE TEST EMPLOYER is a person or entity who is the employer of a Mechanical Acceptance Test Technician and certified by an authorized Mechanical Acceptance Test Technician Certification Provider.

ACCEPTANCE TEST TECHNICIAN CERTIFICATION PROVIDER is an agency, organization or entity approved by the Energy Commission to train and certify Acceptance Test Technicians and Acceptance Test Employers according to the requirements of Sections 10-103-A ~~and~~ or B.

LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN CERTIFICATION PROVIDER is an agency, organization or entity approved by the Energy Commission to train and certify Lighting Controls Acceptance Test Technicians and Lighting Controls Acceptance Test Employers according to the requirements of Section 10-103-A.

MECHANICAL ACCEPTANCE TEST TECHNICIAN CERTIFICATION PROVIDER is an agency, organization or entity approved by the Energy Commission to train and certify Mechanical Acceptance Test Technicians and Mechanical Acceptance Test Employers according to the requirements of Section 10-103-B.

NOTE: Authority cited: Sections 25402 ~~and~~, 25402.1, and 25213, Public Resources Code. Reference: Sections 25007, 25402(a)-(b), ~~and~~ 25402.1, 25402.4, 25402.5, 25402.8 and 25910, Public Resources Code.

SECTION 10-103-A – NONRESIDENTIAL LIGHTING CONTROLS ACCEPTANCE TEST TRAINING AND CERTIFICATION ~~RE-~~ REQUIREMENTS

(a) **Scope.** The requirements of this section apply to nonresidential lighting control Acceptance Test Technicians and Employers, and the Certification Providers that train and certify them.

(b) Industry Certification Threshold. Lighting Controls Acceptance Test Technician and Employer certification requirements shall take effect when the Energy Commission finds that each of the following conditions are met. Until such time that 10-103-A(b)1 and 10-103-A(b)2 are met, Field Technicians are allowed to complete the acceptance test requirements in Section 130.4 without completing the Acceptance Test Technician certification requirements.

1. Number of Certified Acceptance Test Technicians. There shall be no less than ~~4,000~~ 300 Lighting Controls Acceptance Test Technicians certified to perform the acceptance tests in ~~Title 24, Part 6 Building Energy Efficiency Standards~~, Section 130.4. The number of certified Acceptance Test Technicians shall be demonstrated by Certification Provider-prepared reports submitted to the Energy Commission.

2. Industry Coverage by Certification Provider(s). The Certification Provider(s) approved by the Energy Commission, in their entirety, shall provide reasonable access to certification for technicians representing the majority of the following industry groups: electrical contractors, certified general electricians, professional engineers, controls installation and start-up contractors and certified commissioning professionals who have verifiable training, experience and expertise in lighting controls and electrical systems. The Energy Commission will determine whether in their entirety reasonable access to certification is provided by considering factors such as certification costs commensurate with the complexity of the training being provided, certification marketing materials, prequalification criteria, class availability, and curriculum.

(c) Qualifications and Approval of Certification Providers. The Acceptance Test Technician Certification Providers (ATTCPs) shall submit a written application to the Energy Commission with a summary and the related background documents to explain how the following criteria and procedures have been met:

1. Requirements for Applicant ATTCPs to Document Organizational Structure. ATTCPs shall provide written explanations of the organization type, by-laws, and ownership structure. ATTCPs shall explain in writing how their certification program meets the qualification requirements of Title 24, Part 1, Section 10-103-A(c). ATTCPs shall explain in their application to the Energy Commission how their organizational structure and procedures include independent oversight, quality assurance, supervision and support of the acceptance test training and certification processes.

2. Requirements for Certification of Employers. The ATTCPs shall provide written explanations of how their program includes certification and oversight of Acceptance Test Employers to ensure quality control and appropriate supervision and support for Acceptance Test Technicians.

3. Requirements for Applicant ATTCPs to Document Training and Certification Procedures. ATTCPs shall provide a complete copy of all training and testing procedures, manuals, handbooks and materials. ATTCPs shall explain in writing how their training and certification procedures include, but are not limited to, the following:

A. Training Scope. Both hands-on experience and theoretical training such that Acceptance Test Technicians demonstrate their ability to apply the ~~Title 24, Part 6 Building Energy Efficiency Standards~~ acceptance testing and documentation requirements to a comprehensive variety of lighting control systems and networks that are reflective of the range of systems currently

encountered in the field. The objective of the hands-on training is to practice and certify competency in the technologies and skills necessary to perform the acceptance tests.

B. Lighting Controls Acceptance Test Technician Training.

(i) Curricula. Acceptance Test Technician Certification Provider training curricula for Lighting Control Acceptance Test Technicians shall include, but not be limited to, the analysis, theory, and practical application of the following:

- a) Lamp and ballast systems;
- b) Line voltage switching controls;
- c) Low voltage switching controls;
- d) Dimming controls;
- e) Occupancy sensors;
- f) Photosensors;
- g) Demand responsive signal inputs to lighting control systems;
- h) ~~Title 24~~Building Energy Efficiency Standards required lighting control systems;
- i) ~~Title 24~~Building Energy Efficiency Standards required lighting control system-specific analytical/problem solving skills;
- j) Integration of mechanical and electrical systems for ~~Title 24~~ Building Energy Efficiency Standards required lighting control installation and commissioning;
- k) Safety procedures for low-voltage retrofits (≤ 50 volts) to control ~~medium~~ line voltage systems (120 to 480 volts);
- l) Accurate and effective tuning, calibration, and programming of ~~Title 24~~Building Energy Efficiency Standards required lighting control systems;
- m) Measurement of illuminance according to the Illuminating Engineering Society's measurement procedures as provided in the IESNA Lighting Handbook, 9th Edition, July 2000-10th Edition, 2011, which are incorporated by reference ~~on standard measurement grids~~;
- n) ~~Title 24~~Building Energy Efficiency Standards lighting controls acceptance testing procedures; and
- o) ~~Title 24~~Building Energy Efficiency Standards acceptance testing compliance documentation for lighting controls.
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(ii) **Hands-on training.** The ATTCP shall describe in their application the design and technical specifications of the laboratory boards, equipment and other elements that will be used to meet the hands-on requirements of the training and certification.

(iii) **Prequalification.** Participation in the technician certification program shall be limited to persons who have at least three years of verifiable professional experience and expertise in lighting controls and electrical systems as determined by the Lighting Controls ATTCPs, to demonstrate their ability to understand and apply the Lighting Controls Acceptance Test Technician certification training. The criteria and review processes used by the ATTCP to determine the relevance of technician professional experience shall be described in the ATTCP application to the Energy Commission.

~~(iv-iii)~~ **Instructor to Trainee Ratio.** A sufficient ratio of instructors to participants in class-room and laboratory work to ensure integrity and efficacy of the curriculum and program. The ATTCP shall document in its application to the Energy Commission why its instructor to trainee ratio is sufficient based on industry standards and other relevant information.

~~(v iv)~~ **Tests.** A written and practical test that demonstrates each certification applicant's competence in all specified subjects. The ATTCPs shall retain all results of these tests for five years from the date of the test.

~~(vi v)~~ **Recertification.** Requirements and Procedures for recertification of Acceptance Test Technicians each time ~~Title 24, Part 6~~ the Building Energy Efficiency Standards is updated with new and/or modified acceptance test requirements.

C. **Lighting Controls Acceptance Test Employer Training.** Training for Lighting Controls Acceptance Test Employers shall consist of a single class or webinar consisting of at least four hours of instruction ~~minimum of a one-day class~~ that covers the scope and process of the acceptance tests in ~~Title 24, Part 6~~ Building Energy Efficiency Standards, Section 130.4.

D. **Complaint Procedures.** ~~Procedures described in writing for notifying building departments and the public that the Acceptance Test Certification Provider will accept complaints regarding the performance of any certified acceptance test technician or employer, and procedures for how the Provider will address these complaints.~~ The ATTCPs shall describe in their applications to the Energy Commission procedures for accepting and addressing complaints regarding the performance of any certified acceptance test technician or employer, and explain how building departments and the public will be notified of these procedures.

E. **Certification Revocation Procedures.** ~~Procedures described in writing for revoking the certification of Acceptance Test Technicians and Employers based upon poor quality or ineffective work, failure to perform acceptance tests, falsification of documents, failure to comply with requirements for the issuance of building permits or other specified actions that justify decertification.~~ The ATTCPs shall describe in their applications to the Energy Commission procedures for revoking the certification of Acceptance Test Technicians and Employers based upon poor quality or ineffective work, failure to perform acceptance tests, falsification of documents, failure to comply with the documentation requirements of these regulations or other specified actions that justify decertification.

F. **Quality Assurance and Accountability.** The ATTCP shall describe in their application to the Energy Commission how their certification business practices include quality assurance, independent oversight and accountability measures, such as, ~~third party~~ independent oversight of the certification processes and procedures, visits to building sites where certified technicians are completing acceptance tests, certification process evaluations, building department surveys to determine acceptance testing effectiveness, and expert review of the training curricula developed for ~~Title 24, Part 6~~ Building Energy Efficiency Standards, Section 130.4 ~~training curricula~~. ~~Third party~~ Independent oversight may be demonstrated by accreditation under the ISO/IEC 17024 standard.

G. Certification Identification Number and Verification of ATT Certification Status. Upon certification of an ATT, the ATTCP shall issue a unique certification identification number to the ATT. The ATTCP shall maintain an accurate record of the certification status for all ATTs that the ATTCP has certified. The ATTCP shall provide verification of current ATT certification status upon request to authorized document Registration Provider personnel or ~~Enforcement Agency enforcement agency~~ personnel to determine the ATT's eligibility to sign Certificate of Acceptance documentation according to all applicable requirements in Sections 10-103-A, 10-102, 10-103(a)4, and the Reference Joint Appendix JA7.

- (d) Requirements for ATTCPs to Provide Annual Reports.** The ATTCP shall provide an annual report to the Energy Commission summarizing the certification services provided over the reporting period, including the total number of Acceptance Test Technicians and Employers certified by the ATTCP ~~agency~~ (a) during the reporting period and (b) to date. The ATTCP shall ~~and a report to the Energy Commission what adjustments have been made to the training curricula, if any, to address changes to the Building Energy Efficiency Standards Acceptance Testing requirements, adopted updates to the Building Energy Efficiency Standards or to ensure training is reflective of the variety of lighting controls that are currently encountered in the field, no less than six months prior to the effective date of any newly adopted, or amendment to existing, Building Energy Efficiency Standards, as to what adjustments have been made to the training curricula, if any, to address changes to Title 24 Acceptance Testing requirements or to ensure training is reflective of the variety of lighting controls that are currently encountered in the field. The annual report shall also~~ All required reports shall contain a signed certification that the ATTCP has met all requirements for this program.
- (e) Interim Approval of Lighting Controls Acceptance Test Technician Certification Provider.** The California Advanced Lighting Controls Training Program (CALCTP) shall be approved as an authorized Lighting Controls Acceptance Test Technician Certification Provider subject to the below conditions:
1. Interim approval shall be conditioned upon submittal of an application that contains the information required by subdivision (c)(1)-(3), including documentation that demonstrates demonstrating that the certification includes training and testing on Title 24 the Building Energy Efficiency Standards lighting control acceptance testing procedures and Title 24 the Building Energy Efficiency Standards acceptance testing compliance documentation for lighting control systems.
 2. Technicians who have been certified by CALCTP prior to the inclusion of training on Title 24 the Building Energy Efficiency Standards acceptance testing procedures and compliance documentation shall qualify as a Lighting Control Acceptance Test Technicians upon successful completion of a class or webinar consisting of at least four hours of instruction on Title 24 the Building Energy Efficiency Standards acceptance testing procedures and compliance documentation.
 3. Employers who have been certified by CALCTP prior to the inclusion of training on Title 24 the Building Energy Efficiency Standards acceptance testing procedures and compliance documentation shall qualify as a Lighting Control Acceptance Test Employer upon successful completion of a class or webinar consisting of at least four hours of instruction on Title 24 the Building Energy Efficiency Standards acceptance testing procedures and compliance documentation.
 4. Interim approval for all ATTCPs shall end on the later date of, July 1, 2014 or six months after the effective date of the 2013 California Building Energy Efficiency Standards. The Energy Commis-

sion may extend the interim approval period for up to six additional months total, if it determines the threshold requirements in Section 10-103-A(b) have not been met for the certification requirements to take effect. If the Energy Commission determines that an extension is necessary, its determination shall be approved at a publicly-noticed meeting.

5. During the interim approval period, including any possible extensions to this interim period, the Energy Commission may approve additional ATTCP providers=meeting the requirements of 10-103-A(c).

(f) Application Review and Determination. The Energy Commission shall review Acceptance Test Technician Certification Provider applications according to the criteria and procedures in Section 10-103-A(c) to determine if such providers are approved to provide acceptance testing certification services.

1. Energy Commission staff will review and validate all information received on Acceptance Test Technician Certification Provider applications, and determine that the application is complete and contains sufficient information to be approved.
2. The Executive Director may require that the applicant provide additional information as required by staff to fully evaluate the Provider applications. The Executive Director shall provide a copy of its evaluation to interested persons and provide a reasonable an=opportunity for public comment.
3. The Executive Director shall issue a written recommendation that the Energy Commission designate the applicant as an authorized Acceptance Test Technician Certification Provider or deny the ~~that~~ Provider application.
4. The Energy Commission shall make a final decision on the application at a publically noticed hearing.

(g) Review by the Energy Commission.

If the Energy Commission determines there is a violation of these regulations or that an Acceptance Test Technician Certification Provider is no longer providing adequate certification services, the Energy Commission may revoke the authorization of the Acceptance Test Technician Certification Provider pursuant to Section 1230 et. seq. of Title 20 of the California Code of Regulations.

NOTE: Authority cited: Sections 25402, 25402.1, 25213, Public Resources Code. Reference: Sections 25007, 25402(a)-(b), 25402.1, 25402.4, 25402.5, 25402.8 and 25910, Public Resources Code.

SECTION 10-103-B – NONRESIDENTIAL MECHANICAL ACCEPTANCE TEST REQUIREMENTSTRAINING AND CERTIFICATION

(a) **Scope.** The requirements of this section apply to ~~and nonresidential~~ mechanical Acceptance Test Technicians and Employers and the Certification Providers that train and certify them.

(b) **Industry Certification Threshold.** Mechanical Acceptance Test Technician and Employer certification requirements shall take effect when the Energy Commission finds that each of the following conditions are met. Until such time that 10-103-B(b)1 and 10-103-B(b)2 are met, Field Technicians are allowed to complete the acceptance test requirements in Section 120.5 without completing the Acceptance Test Technician certification requirements.

1. **Number of Certified Acceptance Test Technicians.**

A. There shall be no less than ~~1,000~~ 300 Mechanical Acceptance Test Technicians certified to perform all of the acceptance tests in ~~Title 24, Part 6~~ Building Energy Efficiency Standards, Section 120.5, except as provided in Subsection 10-103-B(b)1.B, below. The number of certified Mechanical Acceptance Test Technicians shall be demonstrated by Certification Provider-provided reports submitted to the Energy Commission.

B. If there are less than ~~1,000~~ 300 Mechanical Acceptance Test Technicians certified to perform all of the acceptance tests in ~~Title 24, Part 6~~ Building Energy Efficiency Standards, Section 120.5, then there shall be at least ~~1,000~~ 300 Mechanical Acceptance Test Technicians certified to complete the following tests:

- (i) NA7.5.1 Outdoor Air Ventilation Systems
- (ii) NA7.5.2 Constant Volume, Single Zone Unitary Air Conditioners and Heat Pumps
- (iii) NA7.5.4 Air Economizer Controls
- (iv) NA7.5.5 Demand Control Ventilation Systems
- (v) NA 7.5.6 Supply Fan Variable Flow Controls
- (vi) NA7.5.7, NA7.5.9 Hydronic System Variable Flow Controls
- (vii) NA7.5.10 Automatic Demand Shed Controls

The number of certified Mechanical Acceptance Test Technicians shall be demonstrated by Certification Provider-provided reports submitted to the Energy Commission.

2. **Industry Coverage by Certification Provider(s).** The Mechanical Acceptance Test Technician Certification Provider(s) approved by the Energy Commission, in their entirety, provide reasonable access to certification for technicians representing the majority of the following industry groups: Professional engineers, HVAC installers, mechanical contractors, TAB certified technicians, controls installation and startup contractors and certified commissioning professionals who have verifiable training, experience and expertise in HVAC systems. The Energy Commission will determine reasonable access by considering factors such as certification costs commensurate with the complexity of the training being provided, certification marketing materials, prequalification criteria, class availability and curriculum.

(c) **Qualifications and Approval of Certification Providers.** The Acceptance Test Technician Certification Providers (ATTCPs) shall submit a written application to the Energy Commission with a summary and

the necessary background documents to explain how the following criteria and procedures have been met:

- 1. Requirements for Applicant ATTCPs to Document Organizational Structure.** ATTCPs shall provide written explanations of the organization type, by-laws, and ownership structure. **ATTCPs shall explain in writing how their certification program meets the qualifications of Title 24, Part 6 Building Energy Efficiency Standards, Section 10-103-B(c).** ATTCPs shall explain in their application to the Energy Commission how their organizational structure and procedures include independent oversight, quality assurance, supervision and support of the acceptance test training and certification processes.
- 2. Requirement for Certification of Employers.** The ATTCPs shall provide written explanations of how their program includes certification and oversight of Acceptance Test Employers to ensure quality control and appropriate supervision and support for Acceptance Test Technicians.
- 3. Requirements for Applicant ATTCPs to Document Training and Certification Procedures.** ATTCPs shall provide a complete copy of all training and testing procedures, manuals, handbooks and materials. ATTCPs shall explain in writing how their training and certification procedures include, but are not limited to, the following:
 - A. Both hands-on experience and theoretical training such that Acceptance Test Technicians demonstrate their ability to apply the Title 24, Part 6 Building Energy Efficiency Standards acceptance testing and documentation requirements to a comprehensive variety of mechanical systems and controls that is reflective of the range of systems currently encountered in the field.**
 - B. Mechanical Acceptance Test Technician Training.**
 - (i) Curricula: Acceptance Test Technician Certification Provider training curricula for Mechanical Acceptance Test Technicians shall include, but not be limited to, the analysis, theory, and practical application of the following:**
 - a) Constant volume system controls;
 - b) Variable volume system controls;
 - c) Air-side economizers;
 - d) Air distribution system leakage;
 - e) Demand controlled ventilation with CO₂ sensors;
 - f) Demand controlled ventilation with occupancy sensors;
 - g) Automatic demand shed controls;
 - h) Hydronic valve leakage;
 - i) Hydronic system variable flow controls;
 - j) Supply air temperature reset controls;
 - k) Condenser water temperature reset controls;
 - l) Outdoor air ventilation systems;
 - m) Supply fan variable flow controls;
 - n) Boiler and chiller isolation controls;
 - o) Fault detection and diagnostics for packaged direct-expansion units;
 - p) Automatic fault detection and diagnostics for air handling units and zone terminal units;
 - q) Distributed energy storage direct-expansion air conditioning systems;

- r) Thermal energy storage systems;
 - s) ~~Title 24~~ Building Energy Efficiency Standards mechanical acceptance testing procedures; and
 - t) ~~Title 24~~ Building Energy Efficiency Standards acceptance testing compliance documentation for mechanical systems.
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- (ii) **Hands-on training.** The ATTCP shall describe in their application the design and technical specifications of the laboratory boards, equipment and other elements that will be used to meet the hands-on requirements of the training and certification.
- (iii) **Prequalification:** Participation in the technician certification program shall be limited to persons who have at least three years of verifiable professional experience and expertise in mechanical controls and systems as determined by the Mechanical ATTCPs to demonstrate an ability to understand and apply the Mechanical Acceptance Test Technician certification training. The criteria and review processes used by the ATTCP to determine the relevance of technician professional experience shall be described in the ATTCP application to the Energy Commission.
- (iv) **Instructor to Trainee Ratio.** A sufficient ratio of instructors to participants in classroom and laboratory work to ensure integrity and efficacy of the curriculum and program. The ATTCP shall document in its application to the Energy Commission why its instructor to trainee ratio is sufficient based on industry standards and other relevant information.
- (v) **Tests.** A written and practical test that demonstrates each certification applicant's competence in all specified subjects. The ATTCPs shall retain all results of these tests for five years from the date of the test.
- (vi) **Recertification.** Requirements and Procedures for recertification of Acceptance Test Technicians each time ~~Title 24, Part 6~~ the Building Energy Efficiency Standards is updated with new and/or modified acceptance test requirements. Re-certification requirements and procedures shall only apply to those specific elements that are new and/or modified in future updates to Building Energy Efficiency Standards.

- C. **Mechanical Acceptance Test Employer Training.** Training for Mechanical Acceptance Test Employers shall consist of a ~~minimum of a one day~~ single class or webinar consisting of at least four hours of instruction that covers the scope and process of the acceptance tests in ~~Title 24, Part 6~~ Building Energy Efficiency Standards, Section 120.5.
- D. **Complaint Procedures.** Procedures described in writing for notifying building departments and the public that the Acceptance Test Certification Provider will accept complaints regarding the performance of any certified acceptance test technician or employer, and procedures for how the Provider will address these complaints.
- E. **Certification Revocation Procedures.** Procedures described in writing for revoking the certification of Acceptance Test Technicians and Employers based upon poor quality or ineffective work, failure to perform acceptance tests, falsification of documents, failure to comply with the documentation requirements of these regulations ~~for the issuance of building permits~~ or other specified actions that justify decertification.

F. Quality Assurance and Accountability. The ATTCPs shall describe in their applications to the Energy Commission how their certification business practices include quality assurance, independent oversight and accountability measures such as ~~third-party independent~~ oversight of the certification processes and procedures, visits to building sites where certified technicians are completing acceptance tests, certification process evaluations, building department surveys to determine acceptance testing effectiveness, and expert review of the training curricula developed for ~~Title 24, Part 6 Building Energy Efficiency Standards, Section 130.4 120.5~~ ~~expert review of training curricula.~~ Third-party independent oversight may be demonstrated by accreditation under the ISO/IEC 17024 standard.

G. Certification Identification Number and Verification of ATT Certification Status. Upon certification of an ATT, the ATTCP shall issue a unique certification identification number to the ATT. The ATTCP shall maintain an accurate record of the certification status for all ATTs that the ATTCP has certified. The ATTCP shall provide verification of current ATT certification status upon request to authorized document Registration Provider personnel or ~~Enforcement Agency enforcement agency~~ personnel to determine the ATT's eligibility to sign Certificate of Acceptance documentation according to all applicable requirements in Sections 10-103-B, 10-102, 10-103(a)4, and Reference Joint Appendix JA7.

~~4. The Mechanical ATTCP shall demonstrate sufficient quality assurance, oversight and accountability measures to ensure quality control of its certification program, including third party assessment and accreditation pursuant to the ISO/IEC 17024 standard. Quality assurance shall include site visits to ensure the integrity of the curriculum and training.~~

(d) Requirements for ATTCPs to Provide Annual Reports. The ATTCP shall provide an annual report to the Energy Commission summarizing the certification services provided over the reporting period, including the total number of Acceptance Test Technicians and Employers certified by the agency (a) during the reporting period and (b) to date. The ATTCP shall report to the Energy Commission what adjustments have been made to the training curricula, if any, to address changes to the Building Energy Efficiency Standards Acceptance Testing requirements, adopted updates to the Building Energy Efficiency Standards or to ensure training is reflective of the variety of lighting controls that are currently encountered in the field, no less than six months prior to the effective date of any newly adopted, or amendment to existing Building Energy Efficiency Standards, ~~and a report as to what adjustments have been made to update the training curricula, if any, to ensure training is reflective of the mechanical systems and controls that are currently encountered in the field and of any changes to Title 24 Acceptance Testing requirements.~~ The annual report shall also All required reports shall contain a signed certification that the ATTCP has met all requirements for this program.

(e) Interim Approval of Mechanical Acceptance Test Technician Certification Providers. The Associated Air Balance Council (AABC), National Environmental Balancing Bureau (NEBB), and the Testing Adjusting and Balancing Bureau (TABB) shall be conditionally approved as authorized Mechanical Acceptance Test Technician Certification Providers, each separately subject to the below conditions:

1. Interim approval shall only apply to Mechanical Acceptance Test Technicians completing the following mechanical acceptance tests required in Title 24, Part 6 Building Energy Efficiency Standards, Section 120.5. Mechanical Acceptance Test Technicians certified by one of the above organizations do not have interim approval to complete all other mechanical acceptance tests in Title

~~24, Part 6~~ Building Energy Efficiency Standards, Section 120.5. ~~Interim approval applies only to the following mechanical acceptance tests:~~

- A. NA7.5.1 Outdoor Air Ventilation Systems
- B. NA7.5.2 Constant Volume, Single Zone Unitary Air Conditioners and Heat Pumps
- C. NA7.5.4 Air Economizer Controls
- D. NA7.5.5 Demand Control Ventilation Systems
- E. NA 7.5.6 Supply Fan Variable Flow Controls
- F. NA7.5.7, NA7.5.9 Hydronic System Variable Flow Controls
- G. NA7.5.10 Automatic Demand Shed Controls

2. Interim approval shall be conditioned upon submittal of an application that contains the information required by subdivision (c)(1)-(3), including documentation ~~that demonstrates~~ demonstrating that the certification includes training and testing on ~~Title 24 the Building Energy Efficiency Standards~~ mechanical acceptance testing procedures and ~~Title 24 the Building Energy Efficiency Standards~~ acceptance testing compliance documentation for mechanical systems.
3. Technicians who have been certified by AABC, NEBB, or TABB prior to the inclusion of training on ~~Title 24 the Building Energy Efficiency Standards~~ acceptance testing procedures and compliance documentation shall qualify as a Mechanical Acceptance Test Technicians upon successful completion of a class or webinar on ~~Title 24 the Building Energy Efficiency Standards~~ acceptance testing procedures and compliance documentation.
4. Employers who have been certified by AABC, NEBB, or TABB prior to the inclusion of training on ~~Title 24 the Building Energy Efficiency Standards~~ acceptance testing procedures and compliance documentation shall qualify as a Mechanical Acceptance Test Employer upon successful completion of a class or webinar consisting of at least four hours of instruction on ~~Title 24 the Building Energy Efficiency Standards~~ acceptance testing procedures and compliance documentation.
5. Interim approval for all ATTCPs shall end on the later date of July 1, 2014 or six months after the effective date of the 2013 California Building Energy Efficiency Standards. The Energy Commission may extend the interim approval period for up to six additional months total, if it determines the threshold requirements in Section 10-103-B(b) have not been met for the certification requirements to take effect. If the Energy Commission determines that an extension is necessary, its determination shall be approved at a publicly-noticed meeting.
6. During the interim approval period, including any possible extensions to this interim period, the Energy Commission may approve additional ATTCP providers meeting the requirements of 10-103-B(c).

(f) **Application Review and Determination.** The Energy Commission shall review Acceptance Test Technician Certification Provider applications according to the criteria and procedures in Section 10-103-B(c) to determine if such providers are approved to provide acceptance testing certification services.

1. Energy Commission staff will review and validate all information received on Acceptance Test Technician Certification Provider applications, and determine that the application is complete and contains sufficient information to be approved.

2. The Executive Director may require that the applicant provide additional information as required by staff to fully evaluate the Provider application. The Executive Director shall provide a copy of its evaluation to interested persons and provide an opportunity for public comment.
3. The Executive Director shall issue a written recommendation that the Energy Commission designate the applicant as an authorized Mechanical Acceptance Tester Certification Provider or deny the Provider application ~~that designation.~~
4. The Energy Commission shall make a final decision on the application at a publically noticed hearing.

(g) Review by the Energy Commission.

If the Energy Commission determines there is a violation of these regulations or that an Acceptance Test Technician Certification Provider is no longer providing adequate certification services, the Energy Commission may revoke the authorization of the Acceptance Test Technician Certification Provider pursuant to Section 1230 et. seq. of Title 20 of the California Code of Regulations.

NOTE: Authority cited: Sections 25402, 25402.1, 25213, Public Resources Code. Reference: Sections 25007, 25402(a)-(b), 25402.1, 25402.4, 25402.5, 25402.8 and 25910, Public Resources Code.

**EFFICIENCY STANDARDS
CALIFORNIA CODE OF REGULATIONS
TITLE 24, PART 6**

SECTION 120.5 – REQUIRED NONRESIDENTIAL MECHANICAL SYSTEM ACCEPTANCE

(a) Before an occupancy permit is granted the following equipment and systems shall be certified as meeting the Acceptance Requirements for Code Compliance, as specified by the Reference Nonresidential Appendix NA7. A Certificate of Acceptance shall be submitted to the enforcement agency that certifies that the equipment and systems meet the acceptance requirements:

1. Outdoor air ventilation systems shall be tested in accordance with NA7.5.1
2. Constant volume, single zone unitary air conditioning and heat pump unit controls shall be tested in accordance with NA7.5.2.
3. Duct systems shall be tested in accordance with NA7.5.3 where either:
 - A. They are new duct systems that meet the criteria of Sections 140.4(l)1, 140.4(l)2, and 140.4(l)3; or
 - B. They are part of a system that meets the criteria of Section 141.0(b)2D.
4. Air economizers shall be tested in accordance with NA7.5.4.

EXCEPTION to Section 120.5(a)4: Air economizers installed by the HVAC system manufacturer and certified to the Commission as being factory calibrated and tested are exempt from the Functional Testing section of the Air Economizer Controls acceptance test as described in NA7.5.4.2.

1. Demand control ventilation systems required by Section 120.1(c)3 shall be tested in accordance with NA7.5.5
2. Supply fan variable flow controls shall be tested in accordance with NA7.5.6
3. Hydronic system variable flow controls shall be tested in accordance with NA7.5.7 and NA7.5.9
4. Boiler or chillers that require isolation controls per Section 140.4(k)2 or 140.4(k)3 shall be tested in accordance with NA7.5.7
5. Hydronic systems with supply water temperature reset controls shall be tested in accordance with NA7.5.8
6. Automatic demand shed controls shall be tested in accordance with NA7.5.10.
7. Fault Detection and Diagnostics (FDD) for Packaged Direct-Expansion Units shall be tested in accordance with NA7.5.11.
8. Automatic fault detection and diagnostics (FDD) for air handling units and zone terminal units shall be tested in accordance with NA7.5.12.
9. Distributed Energy Storage DX AC Systems shall be tested in accordance with NA7.5.13.
10. Thermal Energy Storage (TES) Systems shall be tested in accordance with NA7.5.14.
11. Supply air temperature reset controls shall be tested in accordance with NA7.5.15.
12. Water-cooled chillers served by cooling towers with condenser water reset controls shall be tested in accordance with NA7.5.16.

13. When an Energy Management Control System is installed, it shall functionally meet all of the applicable requirements of Part 6.

~~(b) The acceptance test requirements in this section shall be performed by a Certified Mechanical Acceptance Test Technician who is employed by a Certified Mechanical Acceptance Test Employer as specified in Title 4, Part 1, Section 10-103-A. A copy of the certification documentation shall be attached to the acceptance and documentation forms as required in Section 10-103(a).~~ When certification is required by Title 24, Part 1, Section 10-103-B, the acceptance testing specified by Section 120.5(a) shall be performed by a Certified Mechanical Acceptance Test Technician (CMATT). If the CMATT is operating as an employee, the CMATT shall be employed by a Certified Mechanical Acceptance Test Employer. The CMATT shall disclose on the Certificate of Acceptance a valid CMATT certification identification number issued by an approved Acceptance Test Technician Certification Provider. The CMATT shall complete all Certificate of Acceptance documentation in accordance with the applicable requirements in Section 10-103(a)4.

NOTE: Authority cited: Sections 25402, 25402.1, and 25213, Public Resources Code. Reference: Sections 25007, 25402(a)-(b), 25402.1, 25402.4, 25402.5, 25402.8 and 25910, Public Resources Code.

SECTION 130.4 –LIGHTING CONTROL ACCEPTANCE AND INSTALLATION CERTIFICATE REQUIREMENTS

(a) **Lighting Control Acceptance Requirements.** Before an occupancy permit is granted for a newly constructed building or area, or a new lighting system serving a building, area, or site is operated for normal use, indoor and outdoor lighting controls serving the building, area, or site shall be certified as meeting the Acceptance Requirements for Code Compliance in accordance with Section 130.4. A Certificate of Acceptance shall be submitted to the enforcement agency under Section 10-103(a) of Part 1, that:

1. Certifies plans, specifications, installation certificates, and operating and maintenance information meet the requirements of Part 6.
2. Completes the applicable procedures in Reference Nonresidential Appendix NA7.6, NA7.7, NA7.8, and NA7.9; and submits all applicable compliance forms.
3. Certifies that automatic daylight controls comply with Section 130.1(d) and Reference Nonresidential Appendix NA7.6.1
4. Certifies that lighting shut-OFF controls comply with Section 130.1(c) and Reference Nonresidential Appendix NA7.6.2
5. Certifies that demand responsive controls comply with Section 130.1(e) and Reference Nonresidential Appendix NA7.6.3
6. Certifies that outdoor lighting controls comply with the applicable requirements of Section 130.2(c) and Reference Nonresidential Appendix NA7.8.

(b) **Lighting Control Installation Certificate Requirements.** To be recognized for compliance with Part 6 an Installation Certificate shall be submitted in accordance with Section 10-103(a) for any lighting control system, Energy Management Control System, track lighting integral current limiter, track lighting supplementary overcurrent protection panel, interlocked lighting system, lighting Power Adjustment Factor, or additional wattage available for a videoconference studio, in accordance with the following requirements, as applicable:

1. Certification that when a lighting control system is installed to comply with lighting control requirements in Part 6 it complies with the applicable requirements of Section 110.9; and complies with Reference Nonresidential Appendix NA7.7.1.
2. Certification that when an Energy Management Control System is installed to function as a lighting control required by Part 6 it functionally meets all applicable requirements for each application for which it is installed, in accordance with Sections 110.9, 130.0 through 130.5, 140.6 through 150.0, and 150.2; and complies with Reference Nonresidential Appendix NA7.7.2.
3. Certification that line-voltage track lighting integral current limiters comply with the applicable requirements of Section 110.9 and installed wattage has been determined in accordance with Section 130.0(c); and comply with Reference Nonresidential Appendix NA7.7.3.
4. Certification that line-voltage track lighting supplementary overcurrent protection panels comply with the applicable requirements of Section 110.9 and installed wattage has been determined in accordance with Section 130.0(c); and comply with Reference Nonresidential Appendix NA7.7.4.
5. Certification that interlocked lighting systems used to serve an approved area comply with Section 140.6(a)1; and comply with Reference Nonresidential Appendix NA7.7.5.
6. Certification that lighting controls installed to earn a lighting Power Adjustment Factor (PAF) comply with Section 140.6(a)2; and comply with Reference Nonresidential Appendix NA7.7.6.
7. Certification that additional lighting wattage installed for a videoconference studio complies with Section 140.6(c)2Gvii; and complies with Reference Nonresidential Appendix NA7.7.7.

~~(b) (c) The acceptance test requirements in this section shall be performed by a Certified Lighting Controls Acceptance Test Technician who is employed by a Certified Lighting Controls Acceptance Test Employer as specified in Title 4, Part 1, Section 10-103-A. A copy of the certification documentation shall be attached to the acceptance and documentation forms as required in Section 10-103(a).~~
When certification is required by Title 24, Part 1, Section 10-103-A, the acceptance testing specified by Section 130.4 shall be performed by a Certified Lighting Controls Acceptance Test Technician (CLCATT). If the CLCATT is operating as an employee, the CLCATT shall be employed by a Certified Lighting Controls Acceptance Test Employer. The CLCATT shall disclose on the Certificate of Acceptance a valid CLCATT certification identification number issued by an approved Acceptance Test Technician Certification Provider. The CLCATT shall complete all Certificate of Acceptance documentation in accordance with the applicable requirements in Section 10-103(a)4.

NOTE: Authority cited: Sections 25402, 25402.1, 25213, Public Resources Code. Reference: Sections 25007, 25402(a)-(b), 25402.1, 25402.4, 25402.5, 25402.8 and 25910, Public Resources Code.